

Dual Bridge Angular Accelerometer

Abstract

An accelerometer includes an inertial platform maintaining an attitude in response to a platform stabilizing controller signal and defining a spin axis and a reference plane. An accelerometer, coupled to the inertial platform a distance from the spin axis, defines a flex axis, which is perpendicular to the stability axis. The accelerometer generates an accelerometer signal in response to acceleration of the accelerometer. A second accelerometer defines a second flex axis also perpendicular to the stability axis, and is also coupled to the inertial platform a distance from the spin axis. The second accelerometer generates a second accelerometer signal in response to acceleration of the second accelerometer. A controller, including an angular acceleration signal generator, receives the first accelerometer signal and the second accelerometer signal and generates an angular acceleration signal from a difference in amplitudes between the first accelerometer signal and the second accelerometer signal. The controller further generates the platform stabilizing controller signal in response to the first acceleration signal and the second acceleration signal.